

05-10-02

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant(s): Christof Strohhofer, Albert Polman

Assignee: Symmorphix, Inc.

Title: Silver Sensitized Erbium Ion Doped Planar Wave Guide Amplifier

Application No.: 09/994,578 Filing Date: November 26, 2001

Examiner: Unknown Group Art Unit: Unknown

Docket No.: M-12246 US

#5410  
5-16-02Newport Beach, California  
May 8, 2002COMMISSIONER FOR PATENTS  
Washington, D.C. 20231INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR § 1.97(b)RECEIVED  
MAY 16 2002  
TC 1700

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98, the documents listed on the accompanying form PTO-1449 are called to the attention of the Examiner for the above patent application. Copies of these documents are enclosed.

Citation of these documents shall not be construed as:

1. an admission that the documents are necessarily prior art with respect to the instant invention;
2. a representation that a search has been made, ; or
3. an admission that the information cited herein is, or is considered to be, material to patentability as defined in § 1.56(b).

EXPRESS MAIL LABEL NO:

EL 859651153 US

Respectfully submitted,

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U.S. Department of Commerce, Patent and Trademark Office				Atty Docket No.		Serial No.	
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(Use several sheets if necessary)				Strohhofer, Christof et al.			
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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
AQ	C. Strohhofer, A. Polman, "Energy transfer to Er <sup>3+</sup> in Ag ion-exchanged glass", FOM Institute for Atomic and Molecular Physics, 10 pages	
AR	Mesnaoui et al., "Spectroscopic properties of AG <sup>+</sup> ions in phospage glasses of NaPO <sub>3</sub> -AgPO <sub>3</sub> system", EUROPEAN JOURNAL OF SOLID STATE AND INORGANIC CHEMISTRY, Vol. 29, pages 1001-1013, 1992, 14 pages	
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Applicant(s)				Strohhofer, Christof et al.		Group	
Filing Date				November 26, 2001		May 16 2002	

U.S. Patent Documents

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Foreign Patent Documents

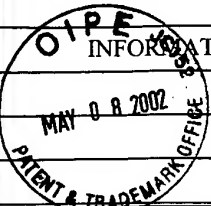
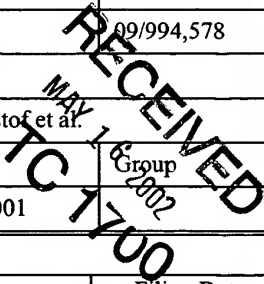
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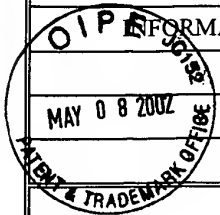
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AQ	Fujii et al., "1.54 $\mu\text{m}$ photoluminescence of $\text{Er}^{3+}$ doped into $\text{SiO}_2$ films containing Si nanocrystals: Evidence for energy transfer from Si nanocrystals to $\text{Er}^{3+}$ ", Appl. Phys. Lett. 71 (9), September 1997, pages 1198-1200
AR	Ramaswamy et al., "Ion-Exchanged Glass Waveguides: A Review", Journal of Lightwave Technology, Vol. 6 No. 6, pages 984-1001, 1988
AS	Meijerink et al., LUMINESCENCE OF $\text{Ag}^+$ IN CRYSTALLINE AND GLASSY $\text{SrB}_4\text{O}_7$ , Journal of Physics and Chemistry of Solids, Vol. 54, No. 8, pages 901-906, 1993

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	AR	Hayakawa et al., "Enhanced fluorescence from $\text{Eu}^{3+}$ owing to surface plasma oscillation of silver particles in glass", Journal of Non-Crystalline Solids 259, pages 16-22, 1999						
	AR	Hayakawa et al., "Field enhancement effect of small Ag particles on the fluorescence from $\text{Eu}^{3+}$ -doped $\text{SiO}_2$ glass", Applied Physics Letters, Vol. 74, No. 11, 15 March 1999, Pages 1513-1515						
	AS	Peters et al., "Formation mechanism of silver nanocrystals made by ion irradiation of $\text{Na}^+ \leftrightarrow \text{Ag}^+$ ion-exchanged sodalime silicate glass", Nuclear Instruments and Methods in Physics Research B 168, (2000), pages 237-244						
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	AR	Villegas et al., "Optical spectroscopy of a soda lime glass exchanged with silver", Physics and Chemistry of Glasses 37(6), 1996, pages 248-253						
	AS	Flytzanis et al., "Nonlinear Optics in Composite Materials", E. Wolf, Progress in Optics XXIX © Elsevier Science Publishers B.V., 1991, pages 323-425						
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AQ	Ohtsuki et al., "Gain Characteristics of a high concentration Er3+-doped phosphate glass waveguide", J. Appl. Phys. 78(6), Physics, 1995, pages 3617-3621	
AR	Delavaux et al., "Integrated optics erbium ytterbium amplifier system in 10 Gb/s fiber transmission experiment", 22 <sup>nd</sup> European Conference on optical Communication-ECOC'96, Oslo, 4 pages	
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